Meeting Minutes
Portsmouth Naval Shipyard, Kittery, ME
"Corrosion Control and Surface Finish Technologies"
16-18 July 2002

1. JDMAG and Portsmouth Naval Shipyard (PNSY) co-hosted the Joint Technology Exchange Group (JTEG) meeting 16-18 Jul in Kittery, Maine. CAPT McCoy, Commander of the PNSY, hosted the meeting. Attendees included representatives from all military Services, Defense Logistics Agency, U.S. Coast Guard, Propulsion Environmental Working Group (PEWG), Advanced Research Laboratories (ARL), depot maintenance personnel, support contractors, and vendors. The theme for the JTEG meeting was "Corrosion Control and Surface Finish Technologies". A list of attendees can be found at Attachment 1.

JTEG Principals Meeting

2. The JTEG Principals meeting began 0800, 16 July 2002. Col Carter introduced herself as the new Joint Depot Maintenance Activities Group (JDMAG) Director and JTEG Chairman, and welcomed the principals and participants to the meeting. Col Carter spoke briefly of the JTEG mission and functions, her previous assignments and looks forward to her new assignment.

3. Mr. Steve Siens, JDMAG, discussed administrative remarks, meeting agenda (see attachment 2), action items, and discussed planned and tentative JTEG future meetings. The following future meeting dates, locations and themes were identified.

- 5-7 Nov 2002, Columbus, OH, co-hosted by Battelle Corp., "Best Business Practices"
- Mar-Apr 2003, Joint Symposium with Commercial Technologies for Maintenance Activities (CTMA), Joint Council on Aging Aircraft (JCAA), Propulsion Environmental Working Group (PEWG), and the Sustainment Readiness Working Group (SRWG). The meeting location is tentatively set for Tucson, AZ. The meeting theme is tentatively "21st Century Depot Maintenance".
- Jun - Jul 2003, Tobyhanna Army Depot, "Electronics and Avionics".
- Nov 2003, Okalahoma City, "Composites"

4. Mr. Siens next brought up an action item by the Joint Group on Depot Maintenance (JG-DM) Chairman, Maj. Gen. Deyermond. Maj. Gen. Deyermond questioned the JG-DM's lack of visibility and review of CTMA/OSD depot maintenance projects. Col Carter discussed the idea that the Flags should approve CTMA projects. There was concern that Flag involvement would slow down CTMA/OSD otherwise streamlined approval process. Col Carter proposed that 2-Stars should approve projects before they get to CTMA (from Principals). She suggested that submittal of projects by Principals to JTEG be timed to be reviewed at quarterly

JTEG meetings prior to going to consortium. Mr. Siens agreed to take this action item and contact Chuck Ryan, CTMA Director.

5. Mr. Siens next requested the service principals vote to include Mike Hanson as a JTEG Principal for the U.S. Coast Guard, and it was agreed that the Coast Guard merits Principal status. Mike McMillan brought up that NASA should also be included but it was decided that currently their participation did warrant principal status at this time.

6. Ms. Cynthia Underwood next presented on JTEG's 21 active projects and four newly proposed JTEG projects. The JTEG principals agreed to adopt the following as JTEG projects:

- Permanent Part Marking Techniques (020701)
- Wiring Integrity Systems (020702)
- Damage and Wear Assessment (020703)
- Laser Precision Metal Deposition (020704)

JTEG Business Meeting.

7. Capt. McCoy, PSNY Commander, welcomed everyone to the PNSY and provided information on the PNSY current mission. The shipyard currently has 3 fast-attack subs. Between now and 2008, 45 subs come due for major maintenance. Capt. McCoy made mention of the JTEG meeting theme, "Corrosion Control and Surface Finish Technologies" and the need to identify solutions to reduce maintenance down time and increase mission availability. Better maintenance technologies could help PNSY in meeting their goals to drive costs down 2-3% a year and reduce maintenance cycle-time from 27 months to 22 months. Capt. McCoy stated currently the PNSY is utilizing powder coating technology as the preferred surface treatment; however it is very labor intensive for subs. Capt. McCoy wished the group success and stated PNSY wanted to learn and garner every advantage to keep them competitive and cost effective.

8. Mr. Steve Siens, JDMAG/MAW, began the business meeting by reviewing the meeting agenda, administrative remarks, and followed with a discussion on future meeting locations. Planned and proposed meetings discussed can be found in paragraph 3 above.

9. Ms. Cynthia Underwood next spoke regarding JTEG projects and the newly proposed JTEG projects (see paragraph 6). The Joint Depot Maintenance and Logistics (JDML) Calendar (see attachment 3), a web based calendar located on the JDMAG web site identifying upcoming events of interest to the depot maintenance community, was next briefed.

10. The JTEG Principals were next given the opportunity to speak on new technologies and/or initiatives within their respective services.

- Mike McMillan, JTEG AF Principal, briefed **USAF Strategy for Coatings Application and Removal**. The briefing focused on establishing an investment strategy for coating systems and processes for removing coating systems from operational aircraft.

- Mr. Steve Gubas, JTEG NAVSEA Principal, briefed a CTMA Project on **Damage Wear Assessment using Condition Based Monitoring** and provided an update on Navy MANTECH/NAVSEA systems.

- Ron Wimmer, JTEG NAVAIR Principal, briefed the following Science and Technology Working Group Projects:

    - Laser Engineer Net Shape
    - Helicopter Blade Depainting
    - Powder Painting
    - Russian Turbine Coating

11. The following are highlights of the JTEG meeting briefings. The complete briefing is available by viewing the agenda, and selecting any highlighted technology briefing.

- **Chrome Plating Substitution**, Sean Krieger, ARL REPTECH. Applied Research Laboratory in conjunction with REPTECH is researching alternatives for chrome plating substitution including: sprayed coatings incorporating: flame spray, air plasma spray, high velocity oxygen fuel, high velocity particle consolidation; weld cladding incorporating: laser beam cladding, and plasma transferred arc (PTA); and vapor processes which includes: electron beam physical vapor deposition, chemical vapor deposition and diamond like coatings.

- **Ice Cleaning Technology**, Jerry Schlossburg, Ed Catlett, Ice Cleaning Systems, Inc. The ICE 250™ Machine briefed on a technique that produces and sprays small ice particles made from clean water with standard or higher-pressure air utilizing only 20 gph of water with no extensive site preparation. A field demonstration was provided on 18 July at the PNSY demonstration tour.

- **USAF De-paint Manipulator Aerial Multi-axis Platform**, John Crabil, AFRL/MLM. Mr. Crabil briefed on efforts to develop and demonstrate a functional, production hardened aerial platform for de-paint environments and inspection tasks. The operator controlled de-paint manipulator (with multiple nozzles) will perform abrasive blasting of aircraft mockup and C-135 aircraft.

- **Alternatives to Aluminum Ceramic Coatings for Turbine Engine Components**, Michelle Bizzarro, PEWG. Provided background on the Propulsion Environmental Working Group mission to establish a consortium of DoD & propulsion industry collaboration to identify and resolve common environmental issues. Major PEWG projects were identified including the qualification of a chrome-free alternative to aluminum-ceramic coatings used for corrosion protection.

- **Crane Corrosion Control Fleet Support**, Maroof Qurashi, NSWC. Mr. Qurashi briefed on NSWC capabilities to perform environmental testing, failure analysis, materials design/selection, coatings/surface treatment, procedural evaluation, and corrosion control.

- **Plural Component Paint Dispensing System**, Mike Romanelli, NAVAIR/LMTCE. NAVAIR has developed a need assessment summary to identify potential technologies to

reduce disposal of 5,700 one gallon containers per year, solvent, scrapers, rags, excess paint, 125,000 pounds of paint related waste per year, while improving the process of manually measuring the exact amounts of paint needed.

- **Corrosion Control and Surface Finishing Technologies**, Jeff Molchan, Sulzer Metco. Sulzer Metco presented their thermal spray and advanced coating and surface enhancement technologies. Technologies presented include:

    - Advanced surface technology equipment, systems and materials
    - Thermal spray, thin film coating and surface enhancement services
    - Manufactured turbine, automotive and other components

  Sulzer Metco advanced surface treatments enhance the external properties of a given object, add protection from mechanical wear or chemical reaction.

- **Paint Booth Barstow and Oil Mist Technology**, Loren Garner, Bio-Reaction Ind. This briefing addressed environmental concerns of the paint booth and aluminum die casting operations currently being utilized at MCLB, Barstow. The biofilters technology introduced is a treatment technology that utilizes a "biomatrix" to biologically absorb and digest variable concentrations of vapor phase VOCs and odorous compounds found in industrial applications and convert them to carbon dioxide and water vapor.

- **US Army Approved CarWell T-32 Corrosion Protection System**, Carl Handsy, TACOM. This briefing focused on a study for the reduction of O&S cost due to premature corrosion through the use of COTS technologies. Candidate technologies were required to prove themselves in rigorous testing & deliver at least 30% better performance than traditional methods in current Army practice.

- **Surface Finishes on Titanium & Wire Build-up Welding**, Joshua Rabinovich, HR Technology. The briefing focused on a mobile repair unit capable of producing on-site, low heat input repairs, cladding, or reinforcement of damaged metal components. Low heat input flat wire deposition process could repair thin wall structures where excessive heat during a repair can cause a component distortion of base material. System would have machining and metal deposition capabilities which would allow users to perform all repair related operations such as preparation, metal deposition, and post-deposition finishing if required, all in one system.

- **Metals Treatment Technologies**, Jim Barthel, MT² LLC. This presentation addressed state-of-the-art metals stabilization technology EcoBond™ for metals stabilization in soil, sludge, mine waste, firing range maintenance and lead based paints.

- **Thermal Spray Coatings For Hard Chrome Replacement**, Bruce Sartwell, Navy Research Lab, HCAT. The briefer described efforts to demonstrate and validate high-velocity oxygen-fuel thermal spray coatings as cost-effective and technologically superior alternative to electrolytic hard chromium at the Navy, Air Force, and Army aircraft depots and in manufacturing operations at Defense Department OEMs.

- **Crane Systems Corrosion Control and Analysis**, Phil Hourihan, PNSY. The briefer described the PNSY crane preservation effort, which includes improved inspection criteria for identified corrosion issues. Improved inspection criteria incorporated oil analysis technologies to detect the presence of water in lubricants as a precursor to gear and bearing corrosion and analysis of particle size produced by corrosion.

- **High Solid Paints on 688 Class Submarines**, John McNally, PNSY. The briefer presented information on the 688 Class Submarines paint and corrosion problems and addressed the current solution utilizing high solid paints and their associated metrics.

- **Dual Use Interior Direct-To-Metal (DTM) / Exterior Chemical Agent Resistant Coating Primer (CARC)**, Jeff Duckworth, NSWC. This briefing addressed a project to demonstrate the effectiveness of using a single COTS coatings as both an interior DTM and an exterior CARC system primer

- **Portable Laser Coating Removal Systems**, Ralph Miller, Lasertronics Inc. The briefer addressed a new generation diode-pumped Nd: YAG laser with a space-efficient footprint which includes waste management module and casters as well as lifting eyes for in-plant movement. This technique reduces waste generation and VOC emissions, streamlines processing (handling, mixing, application) and optimizes procurement and inventory.

- **Cadmium Alternative for Fasteners**, Brian Glowacki, MCII. This briefing highlighted U.S. Army search for alternatives to cadmium. The study briefed identified materials, testing parameters, cost and results of the cadmium alternatives tested.

- **Lean Sustainment for the Depots**, John Crabill, AFRL/MLMP. The intent of AFMC's Lean Sustainment initiative is to reduce cycle times, improve schedule performance, and reduce depot and base inventories via the adaptation of Lean concepts to the repair cycle.

12. **Meeting Wrap-up and Action Items**. Col Carter thanked everyone for their participation during the meeting wrap up, and actively soliciting comments by attendees on ways to improve the meeting. The JTEG principals met after the meeting closed to discuss additional issues.

Number	Action Topic & Status	Action Office / Due Date
02-07-01	Determine resolution of Maj. Gen. Deyermond request to have the JG-DM in the loop on CTMA projects. **Status:** Open	JDMAG / 27 Aug 02
02-07-02	Review all briefings from JTEG meeting and determine if any are candidates for JTEG projects. **Status:** Open	All / 16 Aug 02

02-07-03	Principals will provide first drafts of briefings on their Services depot maintenance technology acquisition process to JDMAG. These briefings will be presented at the 5-7 Nov JTEG meeting. **Status:** Open.	Principals / 30 Sep 02
02-07-04	Identification of keynote speaker for the Nov JTEG meeting on "Best Business Practices," to present on how changes to organizational business practices are made and the impacts of the benefits derived. **Status:** Open	All / 6 Sep 02
02-07-05	Change meeting format to include: • Closed Principals meeting / no distribution of Principals meeting agenda • Identification badges • Improved sound system • Improved meeting / lodging facilities **Status:** Open.	JDMAG / 5 Nov 02

13. For links to technology presentations at this meeting or from past meetings, go to http://www.jdmag.wpafb.af.mil/jtegmin.htm. For additional information on JTEG please contact Steve Siens or Carl Adams, DSN 986-2870, Com (937-656-2870).

Attachments
1. List of Attendees
2. Agenda
3. JDML Calendar